

THE FOOD OF BATRISODES GLOBOSUS (LEC.),
(COLEOP.: PSELAPHIDÆ)*

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A colony of *Lasius niger alienus americanus* Emery was found in a broad, dry board on August 17, 1931, in the sunlit margin of a hemlock forest, on Razorback Lake, near Sayner, Wisconsin. The colony yielded workers in abundance, eggs, larvæ, many pupæ and freshly pupated "callows." With the ants were taken four males and four females of the myrmecocole, *Batrisodes globosus* (Lec.).

Since the exact food of this species appears to be in doubt, the beetles and a part of the colony were studied to determine this point if possible. The general method of observing the nest inhabitants was that used previously (Park, 1929).

B. globosus has been reported previously by Schwarz (1890) with *Lasius alienus*, *Crematogaster lineolatus* and *Camponotus pennsylvanicus*. It has also been found in numbers with *Formica ulkei* (Holmquist, 1928; Park, 1929), so that it appears to have a wide range of formicid hosts.

In 1929 the writer failed to observe this pselaphid feeding. However, it is now certain that *B. globosus*, sharing the protection of the host's nest, and unmolested by the latter, feeds upon their brood.

Living host larvæ, dead and discolored larvæ, and thirdly larvæ which were experimentally crushed and mangled were offered to the pselaphids. All were attacked eventually, although the beetles did not show a tendency to eat every day. Occasionally they fed on two consecutive days, but more often feeding occurred every other day.

The mangled larvæ, with gaping wounds and droplets of exuded body fluid, were most stimulating to the beetles. The

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uninjured, living larvæ were least stimulating as demonstrated by vigor of attack and length of time feeding. The exuded droplets of the mangled larvæ were summarily licked or bitten. The uninjured larvæ and dead, discolored ones were attacked at any portion of the larval integument. The beetles nibbled the surface or picked up a fold of the larval skin between their sharp mandibles. This fold would be held and crushed until the jaws just barely penetrated the surface, and then these tiny punctures or pits would be licked.

The beetles usually wandered over or near the larvæ for some time before eating. While quartering back and forth, they waved their antennæ and twirled their palpi as they appeared to do continually when active in the artificial nests. Usually one beetle fed alone, but two were often seen eating the same larva. Rarely, more than two fed together. Frequently, a beetle would drag a host larva into a crevice, or attempt to do so. Several times two pselaphids were to be seen pulling at opposite ends of the same larva, until one desisted and wandered away. Duration of feeding varied from desultory biting for five seconds to deliberate eating for as long as ten minutes. In general *B. globosus* fed less often, less voraciously and there were fewer beetles eating jointly than was found for the carabid, *Tachyura incurva* (Park, *loc. cit.*).

From these observations we may infer that this pselaphid may on occasion act as a predator, attacking living host larvæ, but more frequently as a scavenger aiding in the disposal of dead larvæ. This is in agreement with the observations of Donisthorpe (1927) who observed *Batrisodes delaportei* Aubé carrying young larvæ of *Acanthomyops brunneus* in their mouths.

LITERATURE CITED

- DONISTHORPE, H. ST. J. K. 1927. The guests of British ants. London: George Routledge and Sons.
- HOLMQUIST, A. M. 1928. Notes on the life history and habits of the mound-building ant, *Formica ulkei* Emery. *Ecology*, 9: 70-87.
- PARK, ORLANDO. 1929. Ecological observations upon the myrmecocoles of *Formica ulkei* Emery, especially *Leptinus testaceus* Mueller. *Psyche*, 36: 195-215.
- SCHWARZ, E. A. 1890. Myrmecophilous Coleoptera found in temperate North America. *Proc. Ent. Soc. Wash.*, 1: 237-247.